

Biochemistry Cumulative Exam

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1. For in vitro protein folding, it has been suggested that a variety of parallel paths are typically present as proteins fold. Yet in experimental studies, single-exponential kinetics is often observed. Explain this apparent discrepancy. Please do not simply present a folding pathway. (20 pts)

2. Describe the geometry/physical properties (dimension, shape, etc.) of the ribosome exit tunnel and explain the significance of the exit tunnel in protein folding. Please be quantitative in your explanation. (40 pts)

- 3a. Name 3 biophysical (spectroscopic) techniques, other than cryo EM used to study RNC structural features. (15 pts)
- 3b. What is RNC? (5 pts)
- 3c. What is known and what remains unclear in cryo EM studies. (20 pts)